APPENDIX F

Environmental Risk Assessment

ENVIRONMENTAL RISK ASSESSMENT
FOR
M-85 FORT STREET BRIDGE OVER THE ROUGE RIVER

Environmental Contamination Risk Assessment Process

MDOT reviews environmental contamination issues and provides some type of risk assessment for improve and expand projects in the Environmental Assessment (EA) and during the design phase. Known and potential sites of environmental contamination are evaluated for their impact to the project design, cost, schedule, and worker safety. Liability issues are also evaluated in terms of future risks and costs to the department.

MDOT staff or consultants hired by MDOT perform an initial site assessment through a records search to determine if any known or potential sites of environmental contamination are present within or adjacent to the project area. Once these sites have been identified a determination is made whether to conduct further investigation to assess the environmental contamination risk for the project. Further investigation could include additional records review or environmental testing in areas of concern. In order to evaluate worker safety potentials, environmental testing is performed in the proposed right-of-way to determine if contamination exists and what level of contamination is present. MDOT is exempt from environmental liability under Section 201126 of Act 451, P.A. 1994, as amended. The testing provides "due diligence" which is required under Part 201 and acts as a mechanism to assess contamination risks for worker safety, exacerbation potential, and to provide some type of cost estimate for construction activities due to environmental issues.

Project Background and History Information

A Preliminary Site Investigation (PSI) was performed along the proposed Fort Street (M-85) bridge replacement project located along the Rouge River in the city of Detroit, Wayne County. The proposed alignment will affect properties along the south side of the existing roadway. In the southwest corner Marathon Oil owns property and on the southeast corner of the project Morton Salt has property in active use and there is also an old gas station.

Risk Assessment Testing for all alternatives

The consultant's PSI consisted of analysis of eight soil borings and two groundwater samples in the project area. Concentrations of each compound tested for were compared to the State of Michigan Part 201 Generic Cleanup Criteria and Screening Levels as established by the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Summary for Proposed Alternative

Test results from the groundwater sample at B-4 detected metal constituents at concentrations above state criteria. Chromium and silver exceeded one or both of the drinking water protection and groundwater-surfacewater interface protection criteria. Some of the soil samples collected

did have concentrations of contamination above state criteria. Boring B-7 has levels of benzo(a)pyrene that exceed the direct contact criterion for residential and commercial I exposure and fluoranthene and phenanthrene exceeded the groundwater-surfacewater interface protection criteria. Soil samples from borings B-1, B-2, B-3, B-4, and B-7 contained one or more metals that exceeded the groundwater- surfacewater interface protection criteria. Arsenic levels exceeded the residential and commercial I direct contact criterion in B-1 and B-4. One small area under the existing road on the west end of the bridge will need additional environmental testing to determine if any contamination exists that will affect the removal of the pavement in that area. If testing indicates that contamination is present, MDOT will properly remove and dispose of any contamination.

Mitigation

Exceedances of groundwater-surfacewater interface and direct contact criteria will require mitigation measures to be taken for this project. All areas of contamination must be noted in the plans and marked with a shaded area. Contaminated soils that are excavated and reused as fill shall not be relocated to a different area within the construction site. If contaminated soil must be removed from the site it will need to be tested and transported to a licensed landfill that will accept these wastes. If dewatering is required during construction, the groundwater may require treatment before being discharged. Permits may be required for the discharge of the groundwater. Sediment in the Rouge River may be contaminated and proper measures must be taken to contain the sediment if it is disturbed. Due to the fact that groundwater-surfacewater interface criteria was exceeded for all land uses a sub-surface utility plan will be needed to insure that no deep utility cuts will impact any contaminated areas. A Worker Health and Safety Plan will be needed to address direct contact issues for contaminants. Construction site precautions must be taken to reduce dermal exposure. Soil erosion and sedimentation controls should also be installed and monitored during soil disturbance activities.

Reference: Preliminary Site Investigation Report by *psi* consulting firm